CORONERS ACT, 1975 AS AMENDED

SOUTH  *AUSTRALIA*

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 20th and 21st days of August 2002 and the 10th day of January 2003, before Anthony Ernest Schapel, a Coroner for the said State, concerning the death of Johann George Mynhart.

I, the said Coroner, find that, Johann George Mynhart aged 77 years, late of the Glenside Campus of the Royal Adelaide Hospital, 226 Fullarton Road, Eastwood died at Eastwood, South Australia on the 1st day of May 2000 as a result of bilateral pulmonary emboli complicating deep vein thrombosis (left calf).

1. Introduction

1.1. Mr Johann George Mynhart died on 1 May 2000 at the Acacia Ward of the Glenside Campus of the Royal Adelaide Hospital (Glenside) at 226 Fullarton Road, Eastwood. He was 77 years of age.

1.2. The deceased was an inpatient at Glenside and, at the time of his death, was detained pursuant to a continuing detention and treatment order imposed by the Guardianship Board on 8 March 2000. The order was made pursuant to Section 13 of the Mental Health Act 1993.

1.3. Because the deceased was at the time of his death a detained patient, he was a person 'detained in custody pursuant to an Act or law of the State'. Therefore by virtue of Sections 12(1)(da) and 14(1a) of the Coroner's Act 1975, the State Coroner was obliged to hold an inquest into the cause and circumstances of this death. I have been directed by the State Coroner to hold the inquest and I did so on 20 and 21 August 2002.

1.4. The cause of the deceased's death is said to have been bilateral pulmonary emboli complicating deep vein thrombosis (DVT), left calf.

1.5. The deceased had been suffering from dementia. This had resulted in his detention. As it transpires, an examination of the deceased's brain post-mortem led Professor Peter Blumbergs of the IMVS to conclude that the deceased had been suffering from senile dementia of the Alzheimer type.

1.6. In January of 2000 the deceased had been admitted to the Downey East Ward of Glenside. On 5 April 2000 he was transferred to the Acacia Ward at Glenside. On 24 April the deceased was taken to the Royal Adelaide Hospital by ambulance. He had a number of suspected physical maladies and he was treated at the Royal Adelaide Hospital until his discharge on 28 April 2000. On that day he was transferred back to the Acacia Ward at Glenside. On the morning of 1 May 2000 he suffered a cardiac arrest whilst sitting in a wheelchair. Appropriate but unsuccessful resuscitation measures were undertaken. His life was certified extinct and a post-mortem examination was conducted by Dr Ross James. The cause of death that I have described was ascertained by Dr James during the post-mortem.

1.7. Before embarking upon a discussion on the circumstances in which the deceased died, it is as well to examine the mechanism of his cause of death, and in particular, the symptomatology of the condition which led to his death.

1.8. Dr James provided two reports to the inquest (Exhibits C18 and C19). The mechanism of the deceased's death is very simply described by Dr James and I set out his evidence in relation to this issue.

> 'A. What's happened in this case is what happens not infrequently in relation to hospital deaths. The veins are the blood vessels that carry the blood back to the heart and thereafter into the lungs to receive more oxygen. The veins themselves rely for their blood flow on continued activity in the muscles of the legs. It's that muscular activity in the legs that forces the supply of blood back up the leg veins, through the body and back to the heart. The veins have a very low pressure and by themselves can't carry the blood back to the heart with any ease. They have a series of small valves throughout their length that stop the blood passively falling backwards towards the feet, as it were. Nevertheless, the mechanism works in quite a satisfactory fashion for almost all of us who have normal mobility. In a group of patients whose muscular activity is restricted or the veins themselves are compressed, the flow of blood can stop. When the flow of blood stops in those deep veins of the legs, the blood can clot. When it does so, it is referred to as a thrombus.

> In this instance, in the deep veins of the legs it is called a deep vein thrombosis. About 95% of such cases are clinically silent. In other words, the patient himself or herself is unaware that this has happened. They don't complain of anything. Nothing much happens as a result of that deep vein thrombosis, but there is one major complication and the complication is that a portion of that clotted blood within the vein can break off. When it does so, it will pass upwards within the veins as an embolus ... It only takes a few seconds for that embolus to pass up the veins, through the heart and into the major arteries going to the lungs. The problem then is that the size of the embolus, generally about the size of a biro, will jam in the smaller branches of the arteries going to the lung. When it does so, it will completely obstruct the blood flow going into the lungs. That is then called a pulmonary embolus. What happens then is a function of how big the embolus is. An obstruction to something like 50% of the blood supply to the lungs will prove fatal. If the embolus is quite small it will jam in one of the vessels to the lungs and that part of the supplied lung might die. That is called a pulmonary infarct. Those patients will have symptoms. They will be short of breath, they will often have pain in that region of their chest and they may cough up blood. It's usually not difficult to diagnose that and treatment can be undertaken. The major problem is when that embolus blocks a major part of the blood supply to the lungs and the patient quite unexpectedly will simply drop dead.
>
> Q. And presumably that's what happened in this particular case?
>
> A. There's no doubt whatsoever from the post-mortem that he had a deep vein thrombosis in his left leg and that he had complicating pulmonary emboli and thirdly, that those emboli were the immediate cause of his death.' (T137-139)

1.9. As to the cause of the development of the deceased's DVT, Dr James said that the deceased was the subject of a number of risk factors. The deceased was diabetic. Diabetics may have peripheral vascular disease and their blood vessels are impaired in comparison with non-diabetic people (T157). In addition a man who has quite severe Alzheimer's disease with vacillating impaired mobility, particularly in a hospital setting, may be at risk of developing a DVT. Dr James said that in the majority of cases people who have died as a result of the development of a DVT have been immobile for an extended period, perhaps recovering after surgery, such as surgery for a fractured leg. Dehydration can also predispose a person to the development of a DVT due to increased density of the blood.

1.10. The deceased died on the morning of 1 May 2000. Dr James told me that thrombosis of the veins is not followed immediately by embolus. He said that there is almost always a latent period perhaps of a week or two weeks after the thrombus has formed before the embolus breaks off (T145). He also expressed the view that it was more likely than not that he had been suffering from the DVT at a time when he had been in

the Royal Adelaide Hospital, some days prior to his death. In addition, Dr James also said that the thrombus would have developed over a period of days and that the DVT was likely to have occurred in anyone whose mobility was affected or where any of the other risk factors that I have mentioned had a role to play (T154). It seems unlikely therefore that the deceased developed the DVT between his discharge from the Royal Adelaide Hospital on 28 April and his death on 1 May 2002. The likelihood is that he had developed the DVT either before he entered the Royal Adelaide Hospital on 24 April or whilst he was in that hospital between 24 April and 28 April 2002. In that period the deceased did in fact have a number of predisposing factors as far as the development of DVT was concerned. There was an issue in the Royal Adelaide Hospital as to the deceased's ability to mobilise. He had been dehydrated and he was a diabetic. I will examine those issues when I deal with the deceased's episode of hospitalisation.

1.11. As seen, Dr James gave evidence that 95% of DVTs are clinically silent. That is not to say that there will never be any signs or symptoms of the existence of a DVT. Dr James said that a DVT might be indicated by swelling of either one or both legs. If so, such swelling would be in the calf. He described what is referred to in medical texts as the Homans sign. This is a test for DVT that can be administered in a clinical setting. In this regard the patient is asked to straighten his leg, lift the leg off the bed and push the toes towards the head. A complaint of pain in the patient's calf muscle more on the affected side than the unaffected side could indicate a DVT. However, in the majority of cases a person with a DVT would not otherwise complain of pain. Dr James told me that a suspected diagnosis of DVT can be confirmed comparatively easily by administering dye studies or ultrasound.

1.12. I was told that people may die of emboli complicating a DVT in the best of hospitals. Dr James said that at least one third of people who die of a pathology complicating DVT have not been diagnosed at the time of their unexpected death (T142). He also said that a significant number of people diagnosed with a DVT failed to survive in spite of timely treatment. However, he was of the view that if the deceased's DVT had been diagnosed it would have been treatable.

1.13. Against that background, this inquest examined the circumstances in which the deceased could have developed a DVT and whether the condition could or ought to

have been diagnosed and whether adequate life saving treatment could have been provided before his eventual fatal collapse had such a diagnosis been made.

2. Circumstances surrounding the death of the deceased

2.1. During the course of the inquest I heard evidence from and received the statements of two members of the deceased's immediate family. I heard from Barbara Louise Mynhart and Yvonne Cornthwaite, both of whom were daughters of the deceased.

2.2. Ms Mynhart told me that her father had suffered from dementia for several years. During the 1990s he had been admitted to the Adelaide Clinic and then Glenside. He also spent a period of time in Hillcrest Hospital but had eventually returned home. His dementia deteriorated and it was becoming more and more difficult for the deceased's wife to look after him. In due course he was admitted to the Aldersgate Nursing Home.

2.3. He became difficult to manage at Aldersgate Nursing Home as his behaviour had become dangerous to staff and other residents. He had been avoiding showering and was non compliant with medication. He had become disoriented with sleeping patterns and had thrown things on occasions. In addition his diabetes had become a problem. In late January 2000 the Aldersgate Nursing Home staff indicated that they wanted to discharge the deceased and so he was taken by his family to Glenside where he was assessed at the Downey House East Ward. He remained in that ward for several weeks before being moved to other wards. It was whilst the deceased was in Downey House East that the Guardianship Board order for 12 months was imposed. In April he was transferred to the Acacia Ward.

2.4. Ms Mynhart visited the deceased regularly at Glenside and performed tasks for him such as collecting and doing his washing.

2.5. Ms Mynhart told me that when the deceased initially went into Glenside he was walking without assistance. However, he was placed on certain medication in order to manage his aggression. Ms Mynhart's perception was that this medication had an adverse affect on his mobility, thought processes and breathing. She agitated for a change of medication and this took place. When the deceased was taken off this medication he improved greatly to the extent that the deceased was able to walk quite a distance from his ward to the Guardianship Board hearing in March 2000. On this

occasion he had been jovial, articulate and quite logical in his reasoning for a person who had dementia (T12).

2.6. On 24 April 2000 medical staff at the Acacia Ward observed that the deceased's condition had deteriorated. As a result, he was taken by ambulance to the Royal Adelaide Hospital on that day. Ms Mynhart went to Glenside that evening to visit the deceased and was told of his earlier transfer to the Royal Adelaide Hospital. Ms Mynhart was not to visit the deceased at the Royal Adelaide Hospital until the afternoon of Thursday, 27 April 2000.

2.7. The deceased presented at the Royal Adelaide Hospital Emergency Department. A letter from a Dr Mukherjee of Glenside accompanied the deceased. That letter forms part of the Royal Adelaide Hospital records (Exhibit C13) and describes the deterioration of the deceased leading to his transfer to that hospital. The letter described him as a non-insulin dependent diabetic with vascular dementia. It went on to describe a deterioration in his mental state over the last 24 to 48 hours, prior to which he had been verbally responsive and able to move around unaided. The letter described him as being 'aggressive behaviourally'. On 24 April 2000 he had exhibited fluctuating consciousness, was unable to respond to verbal commands and was unable to walk. He had an abnormally fast heartbeat and was exhibiting shallow breathing. It went on to describe delirium and the possible causes of it, namely hyperglycaemia (high blood sugar), stroke or infection. It described him as being 'not visibly dehydrated', although medical staff at the Royal Adelaide Hospital were to observe that he was in fact dehydrated on presentation.

2.8. The deceased was treated by a number of medical practitioners including a Dr Kurt Roberts-Thomson who gave evidence before me. Dr Roberts-Thomson examined him and noted that he looked dehydrated and that he was constipated. His white cell count indicated a possible infection.

2.9. When the deceased presented at Royal Adelaide Hospital he underwent a number of investigations. A complete blood examination was conducted and that revealed that his blood was quite concentrated. It also indicated that he possibly had an infection and, as well, indicated that he could have been dehydrated after all. Dr Roberts-Thomson also ordered x-rays. The conclusion was reached that he was suffering from dehydration and the deceased was admitted. Treatment of the deceased included

rehydration. His physical condition gradually improved over the next three to four days. Further tests revealed that the deceased had not been suffering from any infection. On 27 April the deceased was observed by Dr Roberts-Thomson to be comfortable, alert and his observations were stable. He had good urinary output and his urinary catheter was removed. He remained at the Royal Adelaide Hospital for a further 24 hours to ensure that he had no problems voiding following the removal of the catheter. By the following day it was noted that the deceased was aggressive again and that was taken as an indication that he had returned to his baseline. His observations were stable and he had improved to the extent that he was transferred back to Glenside.

2.10. When the deceased was first examined at the Royal Adelaide Hospital on 24 April 2000 it was noted upon examination that he had 'no swelling of his ankles' (T48). Reflex tests were conducted with respect to the soles of his feet. Dr Roberts-Thomson performed those tests. Asked as to why he had examined the deceased's ankles he said:

> 'It's just a - part of a general screening examination, really, and - to make sure that there was no evidence of infection in his ankles, no evidence of swelling. Swelling of his ankles specifically may be looking for either - a cardiac dysfunction, low albumen, a deep venous thrombosis would also cause a swelling of the ankles. So there would be a number of - it's part of a general screening examination that we would normally do.' (T49)

2.11. Dr Roberts-Thomson made no note of any pain in response to the stimulation of the soles of the deceased's feet. Thus, there was no sign or symptom of a DVT as far as an examination of the deceased legs were concerned.

2.12. Following Dr Roberts-Thomson's initial examination of the deceased's ankles there is no further mention in the patient record of any such further test, although, as Dr Roberts-Thomson's said, the focus of further clinical examination would have been in respect of the deceased's mental state and his mobilisation (T64). Dr Roberts-Thomson said:

> 'We wouldn't necessarily examine every patient fully every time we saw them.' (T64)

2.13. Dr Roberts-Thomson was asked what the clinical signs of DVT were and he said:

> 'A. Normally people get pain in their - assuming the deep vein thrombosis is actually in the calf they would normally get pain and tenderness in the calf, they would get swelling of the calf, they would get increased warmth in the leg or in the calf and often it can also become - get redness, discolouration, in the calf.
>
> …
>
> Q. Speaking generally, are you always likely to have swelling and discolouration in changing temperatures of the limbs associated with a DVT or can they be silent, if you like.
>
> A. They can be silent, you certainly don't have to have those changes. Often people would have one or, you know, some changes but it certainly would be possible for people to have no changes at all.
>
> Q. If we just take DVTs in the calf for a moment, are they commonly associated with symptoms of pain.
>
> A. They often are. Most commonly they would have some discomfort - a patient would have some discomfort.
>
> Q. Would or would not.
>
> A. Would have some discomfort.
>
> …
>
> A. The calf is often sensitive to touch. Actually, I think can get quite tight - when it gets swollen it actually becomes quite tight and that can be tender to touch.
>
> Q. Acutely tender in the sense that if it's knocked or brushed with your hand you might produce a response.
>
> A. I don't know - depends, well, I suppose, on what you mean by - I mean, if you - certainly if you palpated someone's calf or, you know, squeezed someone's calf that would be tender. I'm not sure whether just brushing it it would be tender in itself.' (T64-5)

2.14. Dr Roberts-Thomson also said that people who have a DVT sometimes develop swelling in the foot, although it would be unusual to have swelling only in the foot if there was a DVT in the calf. Dr Roberts-Thomson said that the Royal Adelaide Hospital notes revealed no indication at all that the deceased had a DVT in his left calf and he reiterated that there was no evidence of swelling in the left ankle or the left foot according to those notes.

2.15. Dr Roberts-Thomson acknowledged that the length of time that the deceased might have been immobile in the Royal Adelaide Hospital was a risk factor in the development of a DVT. He also said that the increased concentration of his blood was another theoretical risk factor (T73).

2.16. I am satisfied that the deceased's mobility at the Royal Adelaide Hospital was an issue that was in the minds of those treating him. It was noted as part of Dr Roberts-Thomson's history that the deceased was 'unable to mobilise' on 24 April 2000 (T56). He told me that mobility was an important issue in relation to this man's treatment because he had reportedly been mobile prior to his admission to the Royal Adelaide Hospital and that the goal was to attempt to restore the deceased to his normal state of health (T55). In addition, he recognised that the lack of mobility had significance in terms of the risk of developing DVT (T75). On 25 April 2000 it is noted by a Dr Walker 'unable to mobilise yet. Doesn't understand'. A note to similar effect is made in the nursing notes of the same day. It was also noted there that the patient was heavy and that two persons were required to transfer him from his bed to a wheelchair. On 26 April 2000 Dr Walker has noted in his plan that the deceased should be mobilised.

2.17. On 27 April 2000 Dr Walker has noted as part of his plan: 'physio mobilise'. The notes reveal that on that day the deceased was seen by a physiotherapist, Victoria Ann Barei. I received her sworn affidavit in evidence (Exhibit C10). Ms Barei said in her affidavit that she has no independent recollection of having treated the deceased on 27 April 2000. She assumes from the fact that there was only the one note that she saw the deceased on the one occasion. From her notes she is able to say that she was requested to see the deceased on 27 April 2000 and to undertake a mobility assessment. A mobility assessment is undertaken to determine the daily activities a patient is capable of performing independently with a view to making recommendations as to the degree of assistance that is required with activities such as sitting, standing, walking and transferring from a bed to a chair or to the toilet. In the deceased's case, Ms Barei states that the intention was for the deceased to reacquire the degree of mobility that he possessed before he was admitted to the Royal Adelaide Hospital. She noted that he had been previously independently mobile. Her intention was for the deceased to reacquire an appropriate degree of mobility before his discharge from the Royal Adelaide Hospital. Ms Barei has specifically noted that the deceased did not voice any complaints, but she suspects that this was a reflection of his inability to communicate rather than his having no complaint in fact. She has noted that when she examined the deceased he was alert but that he was unable to answer questions or follow verbal commands. Ms Barei was able to observe him lift his arms and legs but was unable to make a full assessment due to 'Mr Mynhart's

limited cooperation'. She observed that he was able to roll independently in his bed, but beyond that, was unable properly to gauge his bed mobility. Ms Barei has noted that the deceased was not mobilising but could stand up with assistance. However, he was not able to ambulate once standing and she infers from her note that this state of affairs was not necessarily due to any physical reason but simply because he was uncooperative. She said that if there had been any apparent reason for his physical incapacity to ambulate she would have noted it. She was able to infer from her notes that he had required assistance to stand. Ms Barei observed that the deceased's poor comprehension meant that her ability to conduct a full assessment of his mobility was limited. She determined that she would review the deceased at a later time to reassess his mobility, possibly within a few days.

2.18. Ms Barei is unable to state the time at which she assessed the deceased. The notes of 27 April 2000 do not reveal the time of her examination. However, it plainly occurred at a time prior to 2:30pm that day because her note precedes a nursing note bearing that time. The nursing note itself reveals that mobilisation was an issue and it has been noted that the physiotherapist had seen the deceased, that he had taken some small steps and that he would be reviewed the following day. The time of the physiotherapist's assessment is significant because Ms Mynhart claimed in evidence that she observed swelling to one of the deceased's feet later that day. I will return to that issue later, but it is pertinent to observe that when Ms Barei assessed the deceased she was mindful of the need to look for any clinical signs of DVT, 'particularly given that Mr Mynhart had been immobile for some time prior to my examination' (Exhibit C10, p4). In particular, she states that she looked for any swelling in the lower limbs and for any indication of elevated temperature, tenderness or unusual colour in the lower limbs. In the deceased's case she did not make a note of any such observation. She states that if she had made such an observation it would have been noted.

2.19. Ms Barei infers from her note that there was no physical reason for the limitations in mobility as demonstrated by the deceased. She would have noted it if his incapacity was due to pain or stiffness or injury to his limbs.

2.20. As it transpired this was the first and last occasion that the deceased was examined by a physiotherapist. This was because of the fact he was transferred back to Glenside on the following day, 28 April 2000.

2.21. It seems to me, therefore, that the issue of the deceased's mobility was properly addressed in the Royal Adelaide Hospital. There were naturally limitations in assessing and improving his mobility, given his dementia, lack of cooperation and general deficit in his well being.

2.22. As Dr James stated in his evidence, patients in the best of clinical settings develop DVT. There is really no suggestion on the evidence that the possibility of him developing a DVT due to his immobility was a matter that was overlooked. His mobility, or lack of it, is noted in the hospital progress notes on a daily basis and he was seen by a physiotherapist on 27 April 2000. Dr Roberts-Thomson was asked why the physiotherapist was not brought in earlier than 27 April 2000. His answer was as follows:

> 'I'm not exactly sure of the reason why; however, I suppose if, in terms of his mental state, there were problems with him - I mean, an assessment of mobility requires some following of commands and things like that and certainly that was - if his mental state wasn't up to that level yet it certainly can be very difficult and it is possible in this patient, that's why it was delayed slightly.' (T75)

In the circumstances, I accept that this was in fact the reason the deceased was not examined earlier.

2.23. In this inquest I was troubled by the evidence that was given by Ms Barbara Mynhart about observations she made of the deceased's left foot when she visited him in the Royal Adelaide Hospital on the afternoon of 27 April 2000. She told me that she attended at the Royal Adelaide Hospital at about 4:15 or 4:30 that afternoon. This would have been at a time after the deceased was examined by Ms Barei, the physiotherapist. When Ms Mynhart arrived the deceased was seated in a chair. He was wearing a hospital gown and had nothing on his feet. She wrapped a blanket around his shoulders and when she attempted to tuck the blanket under his feet, the deceased cried out in pain, and to use the words of Ms Mynhart, 'nearly sent me flying' (T15). He threw the blanket off and she observed that his left foot was puffier than normal. She noticed that his ankle, foot and arch were puffy. She was asked to describe the precise location of the puffiness and she indicated that it was between the toe and the ankle on top of the foot. She did not notice any discoloration. She said that the puffiness was confined to the foot and that there was no puffiness or any swelling to the left leg. She said that she had made a conscious observation of that

leg. In fact, she touched his calves and there was no reaction to that. Ms Mynhart only noticed the swelling to the left foot when she attempted to place the blanket underneath it.

2.24. Ms Mynhart said that it occurred to her at the time that what she observed in relation to the deceased's left foot might have been evidence of a DVT. She has stated that when she made her observation she went to the nurses' station and enquired as to whether they had been taking blood samples from his feet. The answer to that had been no. She told a female nurse about the soreness to the left foot. Ms Mynhart said that she had mentioned to the nurse 'his foot is swollen. It's very painful, he yelped. Has he been walking?' She said that she really left it at that. However, Ms Mynhart told me that she made it very clear to the nurse that the condition of his foot was something that needed to be looked into. Ms Mynhart did not purport to state that any of the nursing staff examined the deceased's foot. Ms Mynhart does not claim that she mentioned her concerns about a possible DVT to the nursing staff. Ms Mynhart was not able to identify any particular member of the Royal Adelaide Hospital nursing staff as the person to whom she had spoken. In addition, there is no note in the deceased's progress notes about this incident. The last entry for 27 April 2000 in the deceased's progress notes is the nursing note at 1430 hours to which I have referred.

2.25. Dr Roberts-Thomson said in evidence that if the scenario as described by Ms Mynhart had been drawn to the attention of the nursing staff a medical officer would usually have been notified about that (T69). Dr Roberts-Thomson could recall nothing to that effect being mentioned to him and he pointed out that there was no mention of this in the notes. He said that if he had been made aware of swelling and pain in the deceased's left foot then 'certainly I would be wanting to investigate what the cause of it was'. Dr Roberts-Thomson said that it would be unusual for a person to experience pain in the foot as an initial symptom of a DVT. He said that it would be unusual to have pain in one isolated area of the foot and in any case, pain associated with a DVT is normally experienced in the calf.

2.26. Dr James gave similar evidence to that of Dr Roberts-Thomson in respect of the description of swelling and pain given by Ms Mynhart. Dr James was asked:

> 'Q. We have heard some evidence of some particular observations from time to time of Mr Mynhart's leg and foot during the course of this inquest and I want to give you that information and ask you whether in your opinion it is likely that there was a presence of DVT at these particular points in time. I realise there are some limitations to that. As you are aware, Mr Mynhart died on 1 May 2000, and his Honour has heard evidence that on 27 April one of Mr Mynhart's daughters, when wrapping a blanket around his legs and then tucking it under his feet, noticed that Mr Mynhart yelped as if he was in pain and kicked out. And that at that stage she saw that his left foot was puffy in the region between his toes and his ankle - and that is on the top of the foot as compared with underneath - and that when she specifically checked the left leg it was not swollen. And that when he was touched on his calves there was no reaction and there was no apparent abnormality visible then. That she believes she would have looked at the right foot and didn't notice anything unusual in relation to the right foot. That she did not see any discoloration on the left foot or leg and she was not able to say one way or another whether there was any heat or warmth emanating from the left leg or foot. So at that stage, really the available information is that there was this puffy left foot between the toes and the ankle. Are you able to say - sorry my learned friend has just pointed out that there was some noted sensitivity to the sole of the left foot, as apparently indicated when Mr Mynhart had a reaction when the blanket was tucked in under his foot. Is that, in your opinion, indicative of the presence of DVT at that stage.
>
> A. It would not suggest it to me. I am not arguing at all about the validity of those observations, but if I had a patient with those it would not strike me that that patient had an obvious deep vein thrombosis of the calf.
>
> Q. Is that because you would have expected for instance, the swelling in the case of DVT to be in the calf.
>
> A. Yes.' (T144-5)

2.27. Dr Roberts-Thomson and Dr James both stated that the signs observed by Ms Mynhart would not suggest the existence of a DVT at the time Ms Mynhart visited her father. However, as already observed, it was Dr James' evidence that the reality was that the deceased had a DVT when Ms Mynhart's observations were made (T145). Dr James' evidence was that it was much more likely than not that he had the DVT on 27 April 2000, but he pointed out that the symptoms that had been described in the evidence of Ms Mynhart 'aren't the classical features for a DVT' (T145).

2.28. It is very difficult to draw any firm conclusion as to the underlying nature of what Ms Mynhart said she observed. Some days later another daughter of the deceased, whose evidence I will discuss in detail in another context, observed swelling to the left leg of

the deceased. There can be no doubt about the accuracy of this later observation because it was noted in the Glenside casenotes. As to whether Ms Mynhart observed the same thing that was seen by her sister several days later is much less clear. The puffiness as described by Ms Mynhart was confined to the top of the left foot. The sensitivity was described as being to the underside of that foot. The coincidence of Ms Mynhart's observations, examined in conjunction with the evidence of Dr James that the deceased probably had a DVT at that time, cannot be overlooked. However, I am quite unable to determine whether the signs and symptoms as described by Ms Mynhart would have alerted either the nursing staff or medical staff at the Royal Adelaide Hospital to the existence of a DVT, on the assumption of course that it was pointed out to them. The physiotherapist, Ms Barei, observed nothing that was symptomatic of a DVT, although it has to be borne in mind that she examined the deceased some hours earlier than Ms Mynhart's visit. If Ms Mynhart held the suspicion of a DVT it is a little surprising that she did not point this out to the nursing staff at the time. However, on the whole I don't doubt that Ms Mynhart was doing her best to give me truthful description of what she saw. I also don't doubt that she expressed her concern to a nurse. What she described to the nursing staff was not followed up. This impression is reinforced by the fact that there is no nursing or medical note in the deceased's progress notes made at a time after Ms Mynhart's visit on 27 April 2000. However, it seems to me that such a description of the deceased's left foot would not, in the circumstances, have necessarily alerted the nursing or medical staff to the existence of a DVT. The symptomatology on the evidence of both Dr Roberts-Thomson and of Dr James would not fit that of a DVT.

2.29. I have considered the possibility that Ms Mynhart's description of what she saw is inaccurate as to the position of the observed swelling. In particular, I have considered whether or not in reality she observed swelling of the calf, not of the foot. Ms Mynhart's description was detailed and was consistent with a statement taken from her on 24 May 2000 when the facts were obviously much fresher in her memory (Exhibit C11). In those circumstances I do not think it would be appropriate to make any finding other than that Ms Mynhart observed swelling to the left foot, that the deceased experienced a pain when the underside of that foot was touched, but that such signs and symptoms were not indicative of a DVT. When all things are properly considered, it is difficult to draw any firm conclusion about the significance of Ms Mynhart's observations on the afternoon of 27 April 2000. However, as Dr Roberts-

Thomson said, what Ms Mynhart observed was a matter that would have required investigation and it no doubt should have been investigated.

2.30. The deceased was discharged from the Royal Adelaide Hospital with a final diagnosis of dehydration. He had been rehydrated with saline. His blood sugar level had been reduced and it was noted in the separation summary that he had become more responsive and was able to sit unassisted. It was also noted that on discharge his mental state had returned to his baseline state. He still required assistance to stand. Further management recommendations included the monitoring of his blood sugar level and assistance with 'mobilisation until full function returns'. It is thus evident that by the time of his discharge the deceased had not reached the level of mobilisation that he had enjoyed at a time prior to his admission to the Royal Adelaide Hospital.

2.31. The deceased was transferred to the Acacia Ward on 28 April 2000. In the course of the inquest I heard evidence from Dr Stephanie Cooper who in April 2000 was working on a half-time basis at Glenside. She described herself as the 'half-time medical officer for Acacia Ward' which entailed her working in that ward on Mondays, Thursday afternoons and Fridays. The Acacia Ward caters for patients with dementia. It could at that time cater for 24 patients. At the relevant time there were 6 staff rostered on each day, generally comprising the clinical nurse consultant who was the senior nurse, her deputy, a clinical nurse and a number of registered mental health and enrolled nurses. Dr Cooper told me that she was the only medical practitioner substantively attached to the Acacia Ward. In her absence medical and/or psychiatric assistance was furnished by the Downey House duty doctor during the week in business hours and, at other times, by the Glenside Hospital's duty doctor.

2.32. Dr Cooper told me that she would see a patient like the deceased on an as required basis. Sometimes she would see such a patient daily. Sometimes it might not be for several days or even a couple of weeks. She performed weekly formal ward rounds and at other times, if a patient's behaviour was a problem or the patient's physical health was a problem, she would embark upon a discussion with her staff about that patient in some depth. Dr Cooper gave some evidence about the deceased's history of treatment whilst in the Acacia Ward. It is evident from her description that his mobility fluctuated from time to time and I have already referred to the fact that in the

24 to 48 hours leading up to his admission to the Royal Adelaide Hospital his mobility had been seriously compromised.

2.33. As to the deceased's state of wellbeing on 28 April when he was transferred back to Glenside, Dr Cooper told me that the nursing staff at Glenside had felt that the deceased had not been appropriately managed at the Royal Adelaide Hospital. They had expressed the view that he was no better than when he had gone in, that in fact he was worse. However, Dr Cooper was asked in the course of her evidence as to whether she had any concerns about his management at the Royal Adelaide Hospital and she said:

> 'A. That's difficult from memory. On the surface it looks fairly standard management; he was assessed, he was rehydrated, his diabetic state was reassessed and treated appropriately, they took bloods. We didn't get the information for instance that his white cell count had returned to normal. We were still under the impression that his white cell count was raised and of course -
>
> Q. Which may have been indicative of infection.
>
> A. Of an infection, absolutely, and certainly we were leaning in that direction because of Dr Mookagee's (sic) note that she had heard decreased air entry in the right base which could be indicative of consolidation of the lung and -' (T122)

There is no material that in my view would lead to a conclusion that the deceased's general deterioration was the result of any neglect by staff of the Royal Adelaide Hospital. The fact that there had been a general deterioration prior to his admission that hospital is evident from Dr Mukerjee's letter of referral.

2.34. On the day of the deceased's discharge from the Royal Adelaide Hospital, Dr Walker has noted in the progress notes that he had contacted the Glenside Acacia Ward. He has noted that Acacia staff had advised him that the staff of the Acacia Ward would be able to do nursing care and mobilisation. It is plain to me that the deceased's mobilisation was still a major issue when he returned to the Acacia Ward and that it was a matter which the staff of that ward had to address. It has been noted in the Acacia Ward progress notes on 28 April 2000 that upon the deceased's return from the Royal Adelaide Hospital he was placed into his bed, he was not ambulating on his own and that he needed two persons to assist with his movements.

2.35. However, the deceased's mobility upon his return to the Acacia Ward is an issue that is somewhat academic. I say this because I accept the evidence of Dr James that by the time of his return to the Acacia Ward at Glenside the deceased in all likelihood had already developed the DVT in his left leg. There is no note in the Glenside progress notes as to the existence of any signs or symptoms of DVT except for one matter I will presently deal with. I am unable to determine whether or not the existence of a DVT was at any time considered by the Acacia Ward staff.

2.36. On 30 April 2000 the deceased was visited at the Acacia Ward by his daughter Yvonne Cornthwaite who, as it happens, is a general registered nurse practising at the Royal Adelaide Hospital. She has obtained her nursing qualifications since her father's death. However, she had worked as a care attendant in a nursing home prior to obtaining her nursing qualifications. Ms Cornthwaite gave evidence before me and her statement was also provided to me (Exhibit C14). She told me that she visited her father at the Acacia Ward at about 3:30pm on Sunday, 30 April 2000 which was the afternoon before her father's death. This was the only occasion on which she had visited her father in the Acacia Ward. When she arrived and asked to see her father, a male nurse went to fetch him and in due course he returned with the deceased. The deceased was in a wheelchair. Ms Cornthwaite said that she was shocked when she saw her father. He had seemed to deteriorate since she had last seen him about three or four weeks before. He appeared to have food in his mouth and his trousers were wet. All of this was pointed out to the nursing staff and the deceased's clothes were changed. She said that a registered nurse was summoned and told Ms Cornthwaite that they were doing certain tests and expressed sympathy in relation to the deceased's deterioration.

2.37. Ms Cornthwaite spent some time talking with the deceased and in the course of this discussion placed her hand on his leg. She felt that his left leg appeared to be quite large and when she took off both of his socks she observed that his left foot was swollen. She then pulled up both of his trouser legs and noticed that the left lower leg was 'almost double the size of his right leg'. When she moved his legs to examine them he flinched. Ms Cornthwaite alerted the nurse to whom she had first spoken. That male nurse examined her father's legs and indicated that he did not know anything about the abnormality that Ms Cornthwaite had detected. The male nurse said that the abnormality appeared to be a pitting oedema which means that he had an

accumulation of fluid. The nurse told Ms Cornthwaite that he would report the matter to the registered nurse. Ms Cornthwaite suggested that her father should have his leg elevated and that he may need Lasix, a tablet which decreases fluid retention. The enrolled male nurse agreed and said that he would mention all of this to the registered nurse. Ms Cornthwaite said that she left the hospital shortly thereafter.

2.38. When asked for more detail as to her observations, Ms Cornthwaite said in evidence that the lower limb from the knee down was completely swollen and that there was some oedema on his foot, such that if she pressed her finger into the top of the foot, it didn't rebound. She said that the whole of the left foot was swollen as were the ankles (T91). Ms Cornthwaite also said that the left leg was slightly reddened around the back of the calf between the knee and the ankle (T94). She also said that the leg was quite warm (T95). Ms Cornthwaite also said in evidence that when she told the enrolled nurse about her observations she pointed out to him that it seemed odd to her that only one leg was affected. The enrolled nurse reassured her that he would bring all of this to the attention of the registered nurse to whom she had earlier spoken.

2.39. There is no doubt in my mind that Ms Cornthwaite accurately described in evidence what she had seen and accurately described her communications with the nursing staff on that day. I am also in no doubt that what Ms Cornthwaite observed was classic symptomatology of a DVT in the deceased's left leg. Dr James gave the following evidence in this respect:

> ' Q. We have heard some further evidence which relates to some observations made on 30 April - just calculating it, so that was the day before Mr Mynhart's death. Another of Mr Mynhart's daughters saw him on that occasion at the Glenside Hospital and she says that she touched his left leg and he flinched. That caused her to roll up his trouser legs, both on the left and right legs, and she saw at that stage that his left calf was swollen and tight. She said that it felt tight, and that there was an area of redness on the calf, the left calf, and that his left foot was also swollen on the top of the foot, that when she pressed it, it left an indent in the top of the foot for a period of time. I think the time given was about 30 seconds. Does that description indicate to you the presence of the thrombosis at that stage.
>
> A. Yes. Now we are talking about a swollen calf and we are also talking about a tender calf. I mentioned earlier the patients themselves don't complain about pain in the leg, but if you elicit that pain either by directly pressing it or, as I have suggested earlier, straightening the leg at the knee joint and pushing the toes towards the head, that will produce pain when there is an underlying deep vein thrombosis and your description of the events on the 30th certainly suggest a DVT. I would also point

out that if his death occurred a day or so later, then without doubt he did have a DVT in the leg at that stage.' (T145-6)

2.40. Ms Cornthwaite's visit was documented in the Glenside patient record. I set out the entry in full:

'Visited by daughter and granddaughter
Daughter was quite distressed at the
deterioration in her father over
the past few weeks. A diplomatic, yet
realistic picture of her father's condition
was explained to her, which she
accepted well. Oedema noticed to left leg.'
(Exhibit C15)

2.41. There is no further entry in the record for 30 April 2000.

2.42. When she was at Glenside, Ms Cornthwaite did not purport to raise with the nursing staff any specific concern she may have had in relation to the existence of a DVT. There is certainly no reference to that possibility in the note that I have set out. Dr Cooper told me that the nursing staff were aware of the signs and symptoms of DVT and would have been mindful of the risks associated with immobile patients and the development of DVT.

2.43. There is no evidence to suggest that Ms Cornthwaite's observations and concerns went any further than the nursing staff on duty on the afternoon of 30 April 2000. The 30 April was a Sunday. Dr Cooper was not on duty during that day. However, the Glenside duty doctor, who was present at the hospital on a 24 hour basis, should have been available to deal with any medical situation that had developed in respect of patients in the Acacia Ward. I infer that nothing was done in relation to Ms Cornthwaite's observations and concerns. In particular, the fact that there is no further entry in the patient's record indicates that medical staff were not advised of the existence of the swelling in the left leg of the deceased. Dr Cooper acknowledged that Ms Cornthwaite's observations were consistent with the existence of a DVT. She was asked:

'Q. On top of that in this case there were clinical signs of it, if one accepts the observations of the daughter.

A. Yes, the story that I have heard this afternoon is very clearly indicative - not all hot, large swollen, tender legs or calves have DVTs but they warrant investigation.

Q. That is something that the nursing staff should be alive to, not only at Glenside of course but in any setting.

A. Indeed.' (T135)

2.44. Dr Cooper told me that she had not been informed of the development. She was not on duty that day. If she had been so informed she would have sent the deceased straight off to the Royal Adelaide Hospital for treatment. She said that treatment at the Royal Adelaide Hospital would have consisted of diagnostic ultrasound and then anticoagulant drug treatment. Whilst Dr James thought that the DVT could have been treated, Dr Cooper was not as confident. She said:

> 'Say he had been sent off by the duty doctor that afternoon to the Adelaide and they had started treatment, by the sound of it from reading the post mortem report, he would not have survived it, because it sounds as though - I mean it was large coiled embolus in his right pulmonary artery from what I remember, so he may not have survived.' (T134)

2.45. In the circumstances I am unable to conclude whether, if the DVT had been detected and diagnosed on the afternoon of 30 April 2000, the deceased may have survived. However, it seems to me that appropriate treatment for the DVT was not made available to the deceased in circumstances where a classic sign of it was plain for the nursing staff to see. In addition, it is also plain that in the circumstances, the Glenside duty doctor should have been made aware of the signs and symptoms that the deceased was displaying on the afternoon of 30 April, in particular the swelling to the left leg and the associated pain. Dr Cooper herself accepted as much. She gave the following evidence:

'Q. You've mentioned in your supplementary on the second to last page, you've referred to the entry on 30 April which has featured in the evidence in this inquest concerning some observations made initially by Mr Mynhart's daughter and conveyed to nursing staff and then it was seen by the nurse himself in terms of swelling of Mr Mynhart's left leg.

A. Yes.

Q. You heard Ms Cornthwaite's evidence earlier today about those circumstances.

A. Yes.

Q. Is there any indication that that occurrence and that report was made or a report of that occurrence was made to a doctor on 30 April.

A. There's no evidence of that, no.

Q. Is that something that you say should have happened.

A. I think in the event of a unilaterally swollen leg, in other words one leg that is swollen, you must think deep vein thrombosis or cellulitis, an infection of the

> tissues of the leg or on rare occasions I have actually seen that it is simply oedema, swelling, fluid, excess fluid, that has not affected the other leg as badly but in that instance I would have thought a doctor would need to be called.' (T126-7)

2.46. Dr Cooper said in one of her statements:

> 'On 30 April 2000 oedema of his left leg was noted. However overall staff felt that they could manage until my return to the ward on 1 May 2000.'
>
> (Exhibit C17, p6)

Dr Cooper attended at Acacia Ward on 1 May 2000. She explained the quoted passage from her statement on the basis that she had asked her staff about the noted oedema to the deceased's left leg and they had said that they could manage. She said:

> 'I asked them and they said they felt they could manage. The wards I've looked after have a history of generally having a very high standard of nursing care and people being able to cope fairly well. They don't like to bother duty doctors with what may be seen as 'trivial' problems and often the hospital duty doctor is off admitting acute young patients to other areas of the hospital and dealing with other issues so it's quite possible they felt they didn't want to bother the hospital duty doctor.' (T127)

I do not take Dr Cooper as saying here that in her view this was a 'trivial' problem. It may have been seen as such by the nursing staff. It plainly was not. The nursing staff were confronted with clinical evidence of a DVT. This was particularly significant in a setting of patient immobility. Medical intervention should have been sought and delivered on 30 April 2000.

2.47. Dr Cooper told me that on the morning of 1 May 2000 she commenced duty at 8:20am. She attended briefly at the Acacia Ward before attending a meeting in another area. She returned to the ward at approximately 9:30am when she was informed of the fact that the deceased had deteriorated and that the staff were very concerned about his welfare. She read the Royal Adelaide Hospital discharge summary and casenotes. It was then that the staff indicated their concerns that the deceased was no better than when he had been admitted to the Royal Adelaide Hospital. At about this time it was observed by one of the nursing staff that the deceased had collapsed while sitting in a wheelchair. Dr Cooper went to examine the deceased. By then he had arrested. He was lifted onto his bed and Dr Cooper observed that his pupils were fixed and dilated and she confirmed cardiac arrest. Appropriate resuscitation efforts were commenced and an ambulance was called. In

spite of continued efforts to resuscitate the deceased those efforts proved unsuccessful and Dr Cooper pronounced life extinct that morning.

3. Conclusions

3.1. I find that the deceased was lawfully detained pursuant to the Guardianship Board order dated 8 March 2000.

3.2. I find that the cause of the deceased's death was bilateral pulmonary emboli complicating deep vein thrombosis (left calf).

3.3. There is no material from which I can conclude that the development of the DVT within the left leg of the deceased was as a result of any neglect on the part of staff at Glenside or the Royal Adelaide Hospital. On Dr James' analysis it is possible that it developed prior to his admission to the Royal Adelaide Hospital. Although the evidence suggests that the DVT certainly existed at a time when the deceased was at the Royal Adelaide Hospital, and certainly on the afternoon of 27 April, the observations described by Ms Barbara Mynhart concerning the deceased's left leg are to my mind not consistent with the usual symptomatology of a DVT. It is therefore very difficult to conclude that had the observations of Ms Mynhart been observed and noted by Royal Adelaide Hospital staff, that that in itself would have led to a conclusion of the existence of a DVT.

3.4. I find that there were indications of the existence of a DVT at the time the deceased was visited by Ms Cornthwaite at the Acacia Ward of Glenside on the afternoon of 30 April 2000. I find that those indications were drawn to the attention of the staff at the Acacia Ward. I also find that there was a failure on the part of the nursing staff to draw those signs and symptoms of DVT to the attention of medical staff who would have been on duty at Glenside and who should have been available to arrange timely medical treatment for the deceased.

3.5. I am unable to conclude whether or not if such medical treatment had been afforded to the deceased it would have prevented the unfortunate outcome in this matter.

3.6. Appropriate efforts were made to resuscitate the deceased when he was observed to have collapsed on the morning of 1 May 2000.

4. Recommendations

4.1. Pursuant to Section 25(2) of the Coroners Act 1975 I recommend that Glenside Acacia Ward nursing staff be reminded that they should be vigilant to the possibility of the development of DVT in patients within the Acacia Ward, particularly in those whose mobility is or has recently been compromised. I also recommend that they be reminded of the need for urgency in seeking medical intervention if signs or symptoms of DVT are detected.

Key Words: Death in Custody; Dementia; Deep Vein Thrombosis;

In witness whereof the said Coroner has hereunto set and subscribed his hand and Seal the 10th day of January, 2003.

Coroner

Inquest Number 22/2002 (1017/2000)